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Is Suicide Higher Among Separated/Retired Police Officers? An Epidemiological Investigation

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Abstract

It is often assumed that separated or retired officers are at increased risk for suicide. The goal of this study was to compare police suicide rates between currently working and separated/retired officers. A 55-year retrospective mortality police cohort was utilized consisting of 3,228 officers who worked between January 1, 1950 and December 31, 2005. Poisson regression and survival analysis were used for comparisons. Adjusted for age and years of service, suicide rates were 8.4 (95% CI = 3.8–18.7) times higher in working officers vs. separated/retired officers (110.5 vs. 13.1 per 100,000 person-years respectively). Survival time to suicide was significantly lower (p<0.0001) for current working officers, suggesting suicide in a significantly shorter time span. Previous research indicates that the majority of suicides in working officers occur in the five years just prior to retirement eligibility, suggesting a period of decision anxiety. Results suggest a higher risk of suicide among working compared to separated/retired officers. However, the need for suicide prevention efforts remains important among both active and retired police officers.

Keywords

police; suicide; retirees; suicide rates; survival time

Epidemiological evidence suggests an elevated rate of suicide within law enforcement (Violanti, Vena & Petralia, 1998; Forastiere, Perucci, Dipietro, Miclei, Rapiti, Bargagli, et al, 1994; Gershon, Lin & Li, 2002; Cantor, Tyman & Slater, 1999; Charbonneau, 2000; Hartwig & Violanti, 1999; Violanti, Fekedulegn, Charles, Andrew, Hartley, Manatsakanova & Burchfiel,2008; O'Hara & Violanti, 2009). Although rarely considered in these studies, it is often assumed that retired or separated officers are more likely than current working officers to commit suicide. This assumption is based on proposed separation anxiety factors which may lead officers to a state of isolation, depression, and potential suicide (Fonda, Wallace & Herzog, 2001). Lindy, Grace, and Green (1981) described this as the membrane effect, where a network of trusted, close persons served to protect persons from distress. Forcese and Cooper (1985) found associations between the police career and post-separation inactivity, bitterness, and disappointment. Goldfarb (1994) found that 12% of officers who left police work were dissatisfied with separation, and 40.63% noted that they missed being a police officer. A study of 1,334 retired male Scottish police officers (34 – 94 years old) found that officers were increasingly susceptible to depression (Touhy, Knussen & Wrennel, 2005).

Contradictory research suggests that separated or retired police officers do not experience the harmful vestiges of stress. Gaska (1980) conducted a suicide study on retired Detroit police officers over a period of 35 years. Broken down on a per-year basis, the crude suicide rate was actually lower among Detroit police retirees than the white male general population at the time of the study (9.8/100,000 vs. 31.5/100,000 respectively). Pole and colleagues (2006) suggested that integrating stress associated with police work into officers' daily social lives prepared them for a resilient separation free from the residuals of posttraumatic stress and depression. In a related study, Pole (2008) found that cumulative duty-related trauma exposure poorly predicted PTSD symptoms in separated police officers. Ozee (2001) found that there were generally no differences in the quality of life in retired Illinois State Police officers, regardless of the retirement option chosen. Harris (1998) concluded that former officers were generally more satisfied with their jobs than current officers, a conclusion contrary to previous studies and conventional wisdom.

In sum, these studies suggest either the presence or absence of precipitants associated with suicide among separated officers but do not establish any actual difference in suicide rates within the occupation of policing. The goal of this study was to empirically examine police suicide rates among currently working and separated/retired officers, utilizing a retrospective police mortality cohort spanning 55 years (1950–2005). In this study, we used the term separated officers which included those who left police employment for any reason, e.g., retirement, resignation, or unknown. Retired officers are those who officially retired from police work after completing the required number of years prescribed by their departments. Our reasoning is based on the proposition that police work is a cohesive occupation and officers develop a strong bond with coworkers and with the status of the job

itself (Violanti, 1992). Separating from police work, even prior to an official retirement, may have an impact on psychological well-being (Violanti, 1992; Pole, Kulkami, Bernstein, & Kaufmann, 2006). However, it is likely that the majority of separated officers in this study were officially retired, given their mean age of 55.3 years. Current workers were defined as actively employed or died while working.

METHOD

The mortality cohort consisted of officers (n = 3,228) who worked a minimum of five years for the Buffalo Police Department, New York, between January 1, 1950 and December 31, 2005. A portion of this cohort was involved in a comprehensive study on police stress and health (Violanti, Vena, Burchfiel, Sharp, Miller, Andrew, Dorn, et al, 2006). Officers who did not have birth data, hire date, or date of termination (n = 142), and officers who worked less than 5 years (n = 54) were excluded from the original data set (N = 3,424). Sources of follow-up included the benefit and pension programs of the city of Buffalo, the New York State Retirement System, New York State Vital Statistics Division, Buffalo Police employment records, Buffalo Police Association publications, obituaries, and the National Death Index. Death certificates were coded by state nosologists according to the International Classification of Diseases (ICD) revision for suicide in effect at the time of death (ICD codes E950-E959; suicide and self inflicted injury). Codes were subsequently converted for analysis to the 8th ICD Revision.

Statistical Analysis

Employment status was defined as *current or separated* from police service. An officer was defined as *separated* if he was terminated from payroll because of resignation (involuntary or voluntary), retirement, death, or any other reason. An officer was defined as *current* if he was actively employed as of 12/31/2005 or died while still employed in the service. The person-years at risk of dying by suicide were calculated for each officer. Among the separated group, the period starting from the date of first employment or 01/01/1950 (for those hired prior to 1950) as a police officer to 12/31/2005 or the date of suicide after leaving the police service was considered to be the years at risk of dying by suicide. For example, officer A was first employed in 1928 and committed suicide in 1968 after having retired in 1962, therefore he contributed 18 person-years at risk (1950–1968 = 18). Among the *current* group, the period starting from the date of first employment or 01/01/1950 as a police officer to 12/31/2005 (if no suicide committed) or the date of suicide while still a police officer was considered to be the years at risk of dying by suicide. For example, officer B started employment in 1951 and committed suicide in 1958. He therefore contributed 7 person-years at risk. Within each group, the individual years at risk were summed across all officers in that group to provide the total years at risk. Demographic characteristics were compared across employment status (separated vs. current officers) using *t*-tests for differences in means of continuous variables and Chi-square tests of independence for categorical variables. Poisson regression was used to estimate the unadjusted, age-adjusted, and years of service-adjusted suicide mortality rates by employment status and were expressed per 100,000 person-years. Rate-ratios were calculated as the suicide mortality rate among currently employed officers divided by the corresponding rate among separated

officers. Survival analysis was used to compare survival time by employment status. All calculations were performed with Statistical Analysis Systems version 9.2 (SAS Institute, Inc., 2008).

RESULTS

Table one provides demographic characteristics of the entire police cohort ($n = 3{,}228$). The cohort was mostly male (92.9%) and white (89.9%), with 37.3% having over thirty years of service. There was a significant difference in mean years of police service between separated and current officers (28.4 vs. 20.6 years respectively; $p < 0.001$).

Table two provides suicide mortality rates by demographic characteristics. There were a total of 30 police suicide cases during this time period. Results suggest that the suicide rate generally decreased as years of service increased (linear trend $p < 0.001$) and as years of separation from police work became more recent (linear trend $p < 0.001$). For the years of police service category, the highest suicide rate was among officers with 19 years of service or less (52.4/100,000; 95% CI = 27.3–100.8).

Table three compares the suicide rate and rate ratios between currently working and separated officers. The adjusted rates were 13.1 vs. 110.5/100,000 person-years for separated and working officers respectively. If person-years at risk were not taken into account, the crude suicide rates would be 8.76/100,000 and 31.5/100,000 per year for separated and working officers respectively. Adjusted for age and years of service, current working officers were 8.4 times (95% CI = 3.8–18.7) more likely to commit suicide than separated officers..

The survival curves shown in Figure 1 compare the probability of surviving past a specific time without committing suicide by employment status. This survival estimate is much lower for currently working officers than for separated officers (log-rank test for homogenity of the survival curves, p-value <0.0001), a result consistent with the findings from the Poisson regression model.

DISCUSSION

Contrary to literature, which portrays separated or retired police officers as susceptible to suicide, the present study suggests that police officers who did commit suicide did so at a higher rate while working and in a significantly shorter time frame than separated officers.

Adjusted for age and years of service, current working officers were 8.4 times (95% CI = 3.8–18.7) more likely to commit suicide than separated officers. Adjusted rates over the 55 year mortality cohort period were 13.1 vs. 110.5/100,000 person-years for separated and working officers respectively; annual crude suicide rates, without taking into account person-years at risk, were 8.76/100,000 and 31.5/100,000 respectively. Although not directly comparable, the yearly crude rate for separated officers was lower than that of the U.S. general population (8.76/100,000 vs. 11/100,000 respectively). Additionally, it was lower than white males over the age of 65 years (8.76/100,000 vs. 14.3/100,000

respectively; Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2009).

The survival curve was useful in terms of comparing the two groups rather than making specific estimates for each group separately. The likelihood of not committing suicide for at least a specific number of years was significantly smaller for current officers compared to retired officers (Log-rank test $p<0.0001$). The curve also suggested that current officers are at higher risk of suicide compared to separated officers because their likelihood of surviving (not committing suicide) is much smaller at every time point on the curve.

There are some limitations to the present study. Since the data is retrospective and cross sectional, results provided statistical but not necessarily causal associations between police work and suicide. As with most retrospective mortality based designs, we had limited data on confounding factors related to lifestyle, ethnicity, alcohol use, social class, and work conditions. Our study did allow for length of police service, year of initial employment, and age at start of employment. We did not have access to information which provided the circumstances of separation. However, given the mean age (55.3 years) of the separated officers, it is likely that a majority were officially retired from police work. Additionally, we did not have information on whether or not the separation was voluntary, involuntary, or due to work related disability. Potocnik, Todera, and Peiro (2010) found that levels of depression were higher in involuntary compared to voluntary retirees. Wallman and colleagues (2006) found that subjects with a disability pension had increased mortality rates as compared with non-retired subjects. Gaska (1980) found the suicide rates to be higher among disabled vs. non-disabled officer retirees.

Although the present findings suggest that current working police officers had significantly higher rates for suicide than separated officers and suicide occurred in a shorter time span, little is known about police occupational factors which contribute to suicide. Future studies of police suicide risk should include identification of potential confounders which may help to identify possible causal relationships between suicide and occupation. A number of medical, psychological, and social influences appear to be associated with police suicide; knowledge of these influences is necessary in order to facilitate prevention efforts. The rate of suicide found among both current working and separated police officers in this study indicates a need for suicide awareness education and increased psychological services. Counseling programs should be initiated to help officers in the critical middle years of their police career. Mid-career and pre-retirement crises can be averted if departments have enough insight to intervene at times of discontent (Violanti, 1992, Darnely, 1975; Dross, 1965; Fretz, Kluge, Ossna & Jones, 1989; Mattila, Joukamaa, & Salokangas, 1988).

The police organization can also benefit separated/retired officers by helping with the transition process to civilian life. Unfortunately, not many police departments offer retirement or separation planning. Doucet (1975) surveyed thirty-two major city police departments in the United States with regards to retirement programs or counseling and found that most departments did not offer any official program. Other options might include utilizing retired officers as a resource for police departments such as a voluntary auxiliary police force or consultants.

Suicide is a clear indication of the intolerable strain placed on the police officer's life both during and after the work experience. All too often the dangers of police work are emphasized, leading to neglect of the hidden psychological danger of this profession. It is timely to address this "other side" of police work with educational and prevention efforts.

Acknowledgments

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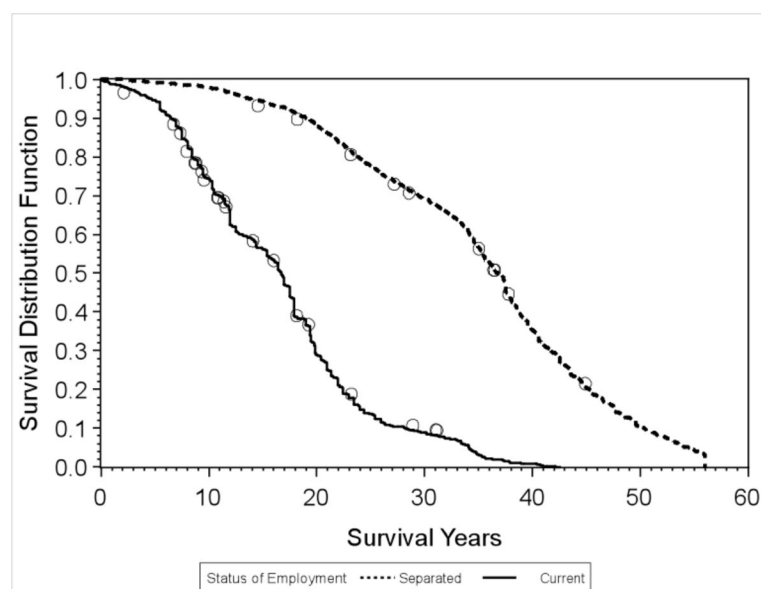
Figure 1.
Suicide-free survival times for separated and current working officers.

Median survival time for separated officers is 36.8 years.

Median survival time for current officers is 16.7 years.

Since the p-valus for the Log-rank test is <0.0001, the survival curve between separated and current officers is significantly different.

Table 1

Demographic characteristics of police officers by employment status.

	Total (N=3,228)		Separated (N=2,075)		Current (N=1,153)		P-value§
	N	%	N	%	N	%	
Gender							<0.001
Male	3000	92.9	2025	97.6	975	84.6	
Female	228	7.1	50	2.4	178	15.4	
Race/Ethnicity							<0.001
White	2892	89.9	2001	96.7	891	77.6	
Black	248	7.7	55	2.7	193	16.8	
Hispanic	78	2.4	13	0.6	65	5.6	
Age first employed							0.451
24 years	1134	35.1	745	39.5	385	33.7	
25–29 years	1463	45.3	933	45.0	530	46.0	
30 years	631	19.6	397	19.1	234	20.3	
Years of Service							<0.001
19	904	28.0	293	14.1	611	53.0	
20–29	1121	34.7	810	39.0	311	27.0	
30	1203	37.3	972	46.9	231	20.0	
Decade Officer Worked							<0.001
1950s	389	12.1	259	12.5	130	11.3	
1960s	447	13.9	325	15.7	122	10.6	
1970s	515	16.0	457	22.0	58	5.0	
1980s	522	16.2	463	22.3	59	5.1	
1990s	396	12.3	372	17.9	24	2.1	
2000–2005	959	29.7	199	9.6	760	65.9	
	Mean	SD	Mean	SD	Mean	SD	P-value‡
Age first employed	26.9	4.5	26.8	4.6	27.1	4.4	0.063
Years of service	25.7	9.8	28.4	8.8	20.6	9.5	<0.001
Age officer separated	52.6	10.1	55.3	9.5	na	na	<0.001
Age at end of risk ‡‡	61.4	14.9	68.9	11.8	47.9	9.4	<0.001

'Separated' means termination of payroll for retirement, resignation, any death except suicide, or unknown reason.

'Current' means actively employed as of 12/31/2005 or was still in service when died from any cause including suicide.

§P-values are from Chi-square tests of independence comparing separated vs. current officers.

†P-values are from t-tests for differences in mean values comparing separated vs. current officers.

‡‡End of risk means date separated from police service or, if 'current', date of death or 12/31/2005.

Table 2

Suicide mortality rate of police officers by demographic characteristics.

Characteristics	No. at risk	No. of suicides	Person-years	Rate * (95% CI)	P-value
Gender					0.097
Male	3000	30	87,673	34.2 (23.9, 48.9)	
Female	228	0	4,114	0	
Race/Ethnicity					0.186
White	2892	29	85,719	33.8 (23.5, 48.7)	
Black	248	0	4,427	0	
Hispanic	78	1	1,460	68.5 (9.6, 486.2)	
Age first employed					<0.001
24 years	1134	8	33,977	23.5 (11.8, 47.1)	
25–29 years	1463	16	41,678	38.4 (23.5, 62.7)	
30 years	631	6	16,133	37.2 (16.7, 82.8)	
Years of Service					<0.001
19	904	9	17,167	52.4 (27.3, 100.8)	
20–29	1121	10	35,211	28.4 (15.3, 52.8)	
30	1203	11	39,409	27.9 (15.5, 50.4)	
Decade Officer Worked					0.001
1950s	389	6	6,239	96.2 (43.2, 214.1)	
1960s	447	9	11,531	78.1 (40.6, 150.0)	
1970s	515	5	19,219	26.0 (10.8, 62.5)	
1980s	522	6	21,621	27.8 (12.5, 61.8)	
1990s	396	1	14,408	6.9 (1.0, 49.3)	
2000–2005	959	3	18,770	16.0 (5.2, 49.6)	

*
The suicide mortality rate is expressed per 100,000 person-years. The 95% CI was computed using the Poisson regression model.

P-values for gender and race are for any difference. P-values for age at employment, years of service, and year of separation are for tests for trend from Poisson regression model.

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Table 3

Suicide mortality rate by work status

Status	No. at risk	No. of suicides	Person-years	Unadjusted rate (95% CI)	Age-adjusted rate (95% CI)	Multivariate-adjusted rate (95% CI)
Separated	2,075	10	72,945	13.7 (7.4, 25.5)	13.6 (7.3, 25.4)	13.1 (6.9, 24.8)
Current	1,153	20	18,841	106.1 (68.5, 164.5)	107.2 (69.2, 166.2)	110.5 (70.8, 172.4)
Rate-ratio [*]				7.7 (3.6, 16.5)	7.9 (3.7, 16.8)	8.4 (3.8, 18.7)

The suicide mortality rate is expressed per 100,000 person-years. The 95% CI was computed using the Poisson regression model.

[*] The rate-ratio is calculated as the mortality rate among currently employed officers divided by the mortality rate among separated officers.

[**] Rate is adjusted for age and years of service.

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